

REMARKS

In a final Office Action dated June 3, 2005, the Examiner rejects claims 1-26. However, Applicants respectfully point out that claims 1-11, 13-17, 19-23, 25-26 (all pending claims) are the only claims pending in this application. Claims 12,18, and 24 were cancelled in a response to an Office Action submitted on 24 February 2004. In response to the Office Action, Applicants respectfully traverses the rejection. Claims 1-11, 13-17, 19-23, and 25-26 remain in the Application. In light of the following arguments, Applicants respectfully request that this Application be allowed.

In the Office Action, the Examiner rejects claim 1 under 35 U.S.C. §103 (a) as being unpatentable over U.S. Patent Number 6,574,666 B1 issued to Dutta (Dutta) in view of U. S. Patent number 6,658,571 B1 issued to O'Brien et al (O'Brien). In order to maintain a rejection the Examiner has the burden of providing evidence of *prima facie* obviousness. See MPEP §2143. See also *In Re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). In order to prove *prima facie* obviousness, the Examiner must provide evidence in the prior art of a motivation to combine or modify a reference, a reasonable expectation of success, and a teaching of each and every claimed element. *Id.* Applicants assert the examiner has failed to provide evidence of a teaching of each and every claimed element or evidence of a proper motivation to combine the references.

In the Office Action the Examiner asserts that transmitting of a packet from a firewall core to at least one inspection module is not recited in the claims. However, the claim states that the firewall core provides packets to at least one inspection module. Applicants do not see the difference between the transmitting and provides. However, Applicants have amended the argument to mirror the words recited in the claim.

The Examiner also states that the modules testing the packets is not recited in the claims. However, the claim clearly states the modules are configured to inspect the

packets which is testing the packets. Applicants have again amended the following argument to recite the exact wording of the claim to clarify the element that the applicant is arguing is not taught.

Furthermore, the Examiner states that the monitoring of packets is not recited in the claim. One skilled in the art will recognize that a firewall device having a plurality of communication interfaces is used to transmit data packets between devices. Although the monitoring of data packets between devices is not explicitly stated, one skilled in the art will know the difference between data packets and systems calls. Furthermore, one skilled in the art will recognize that a data packet received on a communication interface is being sent between systems. Thus, the difference argued is in the claim.

The Examiner also states that the pertinent rule that is fetched is a module. Applicants cannot see how the Examiner can make this statement. One skilled in the art will know the difference between a rule stored in a library and a module which is set of software instructions for performing a function. Applicants are pointing out these are two different entities. Thus, Dutta does not teach the module recited in claim 1. Applicant again set forth the following arguments with the above mentioned corrections.

Applicants maintain that Dutta does not teach the firewall system recited in claim 1. Specifically, Dutta does not teach an inspection module that receives packets and provides protocol inspection of the packets. Furthermore, the inspection module may be added during operation of the firewall core. The Examiner has found the arguments to this point to be persuasive. However, the Examiner has ignored this point in the new rejection as the same references to Dutta teaching this limitation are again recited in the new rejection. Therefore, Applicants will again set forth the argument previously presented to show that Dutta does not teach this limitation.

Applicants want to point out that the gist of Applicant's argument is that Dutta does not teach that the firewall contains two different modules that perform different functions, namely, the firewall core and the at least one inspection module. The firewall core provides packets to at least one inspection module. The Dutta teaching does not teach this feature. Dutta teaches the firewall either applies a rule or retrieves a rule and applies the rule to a packet. There is no teaching whatsoever of providing the packet to an inspection module that then inspects. Therefore, Dutta does not teach all of the claimed elements as arranged in the claim. The following remarks highlight that all of the limitations are not taught and therefore are asserted again for the Examiner's consideration.

Claim 1 recites at least one inspection module coupled for communication to said firewall core, each said at least one inspection module configured to provide protocol inspection of data packets to said firewall core, said firewall core configured to receive data packets from said plurality of communication interfaces and communicate said packets to said at least one inspection module for inspection, said at least one inspection module is further configured to be installed during the operation of the firewall system. Dutta does not teach this limitation. Instead, Dutta teaches a firewall system in which rules in a database may be retrieved by a firewall system to test the packets. In claim 1, the firewall core provides the packets to an inspection module that inspects the packet. Each module is software that is being executed to perform inspection of a packet. Applicant cannot find any mention in Dutta of the use of different modules to inspect packets in a firewall system.

The Examiner states that an inspection module is taught by Col. 5, lines 1-12 which states:

... (the executing fetching instructions), which in one embodiment is also implemented in the kernel, and in another embodiment is implemented at the application layer. The fetching process retrieves a pertinent rule and sends it to the firewall process, which loads it at the firewall. This embodiment advantageously separates the functions of the traditional firewall from retrieving a rule by the firewall for a packet. This keeps the firewall instructions relatively simple, and maintains a certain level of security by separating the firewall process from interactions with e.g. an external database from which rules are to be retrieved to be loaded at the firewall.

Applicants do not see anything in this recited section that teaches an inspection module that provides inspection of packets for a firewall core. Instead, cited section teaches a firewall process for testing packets that has a separate fetching function that retrieves rules for testing to be used by a firewall process. There is no mention of a separate inspection modules for inspecting packets as recited in claim 1. Furthermore, there is no mention of new inspection modules that may be loaded during execution of the firewall process. Thus, the at least one inspection module recited in claim 1 is not taught by Dutta.

O'Brien also does not teach at least one inspection module coupled for communication to said firewall core, each said at least one inspection module configured to provide protocol inspection of data packets to said firewall core, said firewall core configured to receive data packets from said plurality of communication interfaces and communicate said packets to said at least one inspection module for inspection, said at

least one inspection module is further configured to be installed during the operation of the firewall system as recited in claim 1. Instead O'Brien teaches modules that grant or deny access of resources to software applications based upon the application requesting a resource or the resource being requested. See Col. 3, lines 41-43. The modules monitor system calls made by applications and permit access to resources based upon system calls. See Col. 5, line 45-Col. 6, line 17. There is no mention anywhere in the O'Brien document of modules that monitor packets being sent between systems as in a firewall device. Thus, O'Brien does not teach the inspection module recited in amended claim 1.

Since neither Dutta nor O'Brien teaches the inspection module recited in a claim 1. Applicants request that this rejection be removed and claim 1 be allowed.

Even if the combination of Dutta and O'Brien teaches the inspection module claimed in claim 1, the Examiner has not provided evidence of a motivation to combine the references. As stated in the MPEP and case law, "The mere fact that references can be combined or modified does not render the resulting combination obvious unless the prior art suggests desirability of the combination." See *In re Mill*, 916 F2d 680 (Fed. Cir. 1990). See also MPEP §2143.01. In the Office Action, the Examiner merely asserts that one skilled in the art would use security modules to reduce damage caused by malicious software without additional software. First, there is no support for this statement in either reference. Second, O'Brien standing alone solves the problem stated. See Abstract. Thus, applicant requests that the Examiner provide prior art showing this motivation.

Furthermore, case law and the MPEP require the proposed modification cannot render the prior art unsatisfactory for its intended purpose. See MPEP §2143.01. See also *In re Gordon*, 733 F2d 900 (Fed. Cir 1984). If the purposed modification were made

the firewall of Dutta would include security modules that monitor systems calls to restrict access to resource by software. This does not improve the unauthorized access to the system prevented by the firewall in Dutta. Furthermore, there is no improvement of restricting access to resources by monitoring the packets received by the system. Dutta and O'Brien are providing two different forms of security. Both systems are adequate for their intended purpose and combining the two would add a second function to each system. Thus, the combination is not permitted.

Furthermore, it appears the Examiner is using impermissible hindsight engineering to make the combination. The Examiner had previously found that Dutta taught some of the functions of claim 1. When Applicants pointed out that the inspection modules of claim 1 inspected the packets and could be added at run time, the Examiner merely found a reference that taught modules that had nothing whatsoever to do with a firewall and added the reference merely for the teaching of the module regardless that the modules did not inspect packets and were used for an entirely different function. For the above reasons, the combination is not supported by evidence and Applicants respectfully request the rejection of claim 1 be removed.

Claims 2-5 are dependent upon claim 1. Thus, claims 2-5 are allowable for at least the same reasons as claim 1. Therefore, Applicants respectfully request that the rejections to claims 2-5 be removed and claims 2-5 be allowed.

In the Office Action, the Examiner rejects claim 6 under 35 U.S.C. §103 (a) as being unpatentable over U.S. Patent Number 6,574,666 B1 issued to Dutta (Dutta) in view of U. S. Patent number 6,658,571 B1 issued to O'Brien et al (O'Brien). In order to maintain a rejection the Examiner has the burden of providing evidence of *prima facie* obviousness. See MPEP §2143. See also In Re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). In order to prove *prima facie* obviousness, the Examiner must provide

evidence in the prior art of a motivation to combine or modify a reference, a reasonable expectation of success, and a teaching of each and every claimed element. Id. Applicants assert that the Examiner has failed to provide a teaching of each and every claimed element and a motivation to combine the references.

In the Office Action, the Examiner asserts that Applicants rely on a firewall core that monitors memory for new inspection modules that is not recited in the claims. However claims 6 recites wherein said firewall core being configured to monitor a memory to determine when a new inspection module is loaded into said memory. Thus, Applicants find no basis for this assertion. Thus, Applicants present the arguments again for Examiner's consideration.

Claim 6 recites a firewall core that monitors a memory for inspection modules that are loaded into a memory during operation of the firewall system. Dutta does not teach this limitation. Instead, Dutta teaches a system that receives a packet, determines if a rule for testing the packet is in the firewall, and retrieving the rule from a database if the rule is not in the firewall. This is different from a core system that reads a memory to determine when a new module for performing tests is added to the memory. Thus, Dutta does not teach claim 6. Therefore, applicant requests that the rejection of claim 6 be removed and claim 6 be allowed.

O'Brien also does not teach claim 6. Instead O'Brien teaches a security master that provides an application programming interface for the security modules used to register. In O'Brien the security modules must actively register with the master. While in claim 6, the call back functions are retrieved by the firewall core from a new module detected in active memory. Thus, O'Brien does not teach the call back function of claim 6. Since neither Dutta nor O'Brien teach the callback functions recited in claim 6, the

combination does not teach the call back functions. Thus, Applicants respectfully request that the rejection of claim 6 be removed.

Even if the combination of Dutta and O'Brien teaches the inspection module claimed in claim 6, the Examiner has not provided evidence of a motivation to combine the references. As stated in the MPEP and case law, "The mere fact that references can be combined or modified does not render the resulting combination obvious unless the prior art suggests desirability of the combination." See *In re Mill*, 916 F2d 680 (Fed. Cir. 1990). See also MPEP §2143.01. In the Office Action, the Examiner merely asserts that one skilled in the art would use security modules to reduce damage caused by malicious software without additional software. First, there is no support for this statement in either reference. Second, O'Brien standing alone solves the problem stated. See Abstract.

Furthermore, case law and the MPEP require the proposed modification cannot render the prior art unsatisfactory for its intended purpose. See MPEP §2143.01. See also *In re Gordon*, 733 F2d 900 (Fed. Cir 1984). If the purposed modification were made, the firewall of Dutta would include security modules that monitor system calls to restrict access to resources by software. This does not improve the unauthorized access to the system prevented by the firewall in Dutta. Furthermore, there is no improvement of restricting access to resources by monitoring the packets received by the system. Dutta and O'Brien are providing two different forms of security. Both systems are adequate for their intended purpose and combining the two would add a second function to each system. Thus, the combination is not permitted.

Furthermore, it appears the Examiner is using impermissible hindsight engineering to make the combination. The Examiner had previously found that Dutta taught some of the functions of claim 6. When Applicants pointed out that the inspection modules of

claim 1 inspected the packets and could be added at run time, the Examiner merely found a reference that taught modules that had nothing whatsoever to do with a firewall and added the reference merely for the teaching of the module regardless the modules did not inspect packets and were used for an entirely different function. For the above reasons, the combination is not supported by evidence and Applicants respectfully request the rejection of claim 6 be removed.

Claims 7-9 are dependent upon claim 6. Thus claims 7-9 are allowable for at least the same reasons as claim 6. Therefore, Applicants respectfully request that the rejections of claims 7-9 be removed and claims 7-9 be allowed.

In the Office Action, the Examiner rejects claim 10 under 35 U.S.C. §103 (a) as being unpatentable over U.S. Patent Number 6,574,666 B1 issued to Dutta (Dutta) in view of U. S. Patent number 6,658,571 B1 issued to O'Brien et al (O'Brien). In order to maintain a rejection the Examiner has the burden of providing evidence of *prima facie* obviousness. See MPEP §2143. See also In Re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). In order to prove *prima facie* obviousness, the Examiner must provide evidence in the prior art of a motivation to combine or modify a reference, a reasonable expectation of success, and a teaching of each and every claimed element. *Id.* Applicant asserts that the Examiner has failed to provide a teaching of each and every claimed element and a motivation to combine the references.

Claim 10 recites a function table of an inspection module that is loaded into a memory monitored by the firewall core during operation of the firewall system. This is not taught by Dutta. Instead, Dutta teaches a system that can retrieve a rule for testing a packet when the rule is not currently in the firewall system. There is no mention of the firewall system having a core that monitors a memory for function tables of new inspection modules that can test packets in new types of protocols where the function

table gives call back function for providing packets to the inspection module for inspection. Thus, the function table recited in claim 10 is not taught by Dutta.

O'Brien also does not teach the function table in claim 10 instead O'Brien teaches a security master that provides an application programming interface for the security modules used to register. In O'Brien the security modules must actively register with the master. While in claim 6, the call back functions are retrieved by the firewall core from a new module detected in active memory. Thus, O'Brien does not teach the function table recited by claim 10. Since neither Dutta nor O'Brien teach the callback functions recited in claim 10, the combination does not teach the call back functions. Thus, Applicants respectfully request that the rejection of claim 6 be removed.

Even if the combination of Dutta and O'Brien teaches the function table claimed in claim 10, the Examiner has not provided evidence of a motivation to combine the references. As stated in the MPEP and case law, "The mere fact that references can be combined or modified does not render the resulting combination obvious unless the prior art suggests desirability of the combination." See *In re Mill*, 916 F2d 680 (Fed. Cir. 1990). See also MPEP §2143.01. In the Office Action, the Examiner merely asserts that one skilled in the art would use security modules to reduce damage caused by malicious software without additional software. First, there is no support for this statement in either reference. Second, O'Brien standing alone solves the problem stated. See Abstract.

Furthermore, case law and the MPEP require the proposed modification cannot render the prior art unsatisfactory for its intended purpose. See MPEP §2143.01. See also *In re Gordon*, 733 F2d 900 (Fed. Cir 1984). If the purposed modification were made the firewall of Dutta would include security modules that monitor system calls to restrict access to resources by software. This does not improve the unauthorized access to the

system prevented by the firewall in Dutta. Furthermore, there is no improvement of restricting access to resources by monitoring the packets received by the system. Dutta and O'Brien are providing two different forms of security. Both systems are adequate for their intended purpose and combining the two would add a second function to each system. Thus, the combination is not permitted.

Furthermore, it appears the Examiner is using impermissible hindsight engineering to make the combination. The Examiner had previously found that Dutta taught some of the functions of claim 10. When Applicants pointed out that the inspection modules of claim 10 inspected the packets and could be added at run time, the Examiner merely found a reference that taught modules that had nothing whatsoever to do with a firewall and added the reference merely for the teaching of the module regardless that the modules did not inspect packets and were used for an entirely different function. For the above reasons, the combination is not supported by evidence and Applicants respectfully request the rejection of claim 10 be removed. Therefore, Applicants request that the rejection of claim 10 be removed and amended claim 10 be allowed.

Claims 11, 13 and 14 depend from claim 10. Thus, claims 11, 13, and 14 are allowable for at least the same reasons as claim 10. Therefore, Applicants request that the rejections to claims 11, 13, and 14 be removed and claims 11, 13, and 14 be allowed.

Claim 15 recites a method for loading an inspection module that is claimed in claim 10. Thus, claim 15 is allowable for at least the same reasons as claim 10. Thus, Applicants respectfully request that the rejection of claim 15 be removed and amended claim 15 be allowed.

Claims 16, 17, 19 and 20 depend from claim 15. Thus, claims 16, 17, 19 and 20 are allowable for at least the same reasons as claim 15. Therefore, Applicants request that

the rejections to claims 16, 17, 19, and 20 be removed and claims 16, 17, 19, and 20 be allowed.

Claim 21 claims a device that includes instructions for directing a computer to perform the method of claim 15. Thus claim 21 is allowable for at least the same reason as claim 15. Therefore, Applicants respectfully request that rejection of claim 21 be allowed and amended claim 21 be allowed.

Claims 22, 23, 25 and 26 depend from claim 21. Thus, claims 22, 23, 25 and 26 are allowable for at least the same reasons as claim 21. Therefore, Applicants request that the rejections to claims 22, 23, 25, and 26 be removed and claims 22, 23, 25, and 26 be allowed.

If the Examiner has any questions regarding this application or this response, the Examiner is invited to telephone the undersigned at the below number.

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